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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/064,575

07/29/2002

Wen-Chih Yang

7808-US-PA

3241

31561

7590

12/22/2003

JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE

7 FLOOR-1, NO. 100

ROOSEVELT ROAD, SECTION 2

TAIPEI, 100

TAIWAN

EXAMINER

PATEL, ISHWARBHAI B

ART UNIT

PAPER NUMBER

2827

DATE MAILED: 12/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/064,575

Applicant(s)

YANG ET AL.

Examiner

Ishwar (I. B.) Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 14 is/are pending in the application.
- 4a) Of the above claim(s) 5 and 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of specie (I) reading on figure 3, claims 1-4 and 14 in Paper filed on October 15, 2003 is acknowledged. The traversal is on the ground(s) that the species are not different embodiments but the bump layouts related to bumps positioned in an array format over an active region of an Integrated circuit. This is not found persuasive because the layouts of the bumps with different arrangements are the different embodiments and will constitute different specie.

However, if a generic claim is allowed, additional species which are written in dependent form or otherwise include all the limitation of the allowed generic claim, will be allowed / rejoined as provided by 37 CFR 1.141.

Claims 1-4 and 14 are examined for the patentability.

Claims 5-6 are withdrawn from further consideration as non-elected specie.

The requirement is still deemed proper and is therefore made FINAL.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). Also acknowledged is the receipt of the certified copy of the priority papers, which have been placed of record in the file.

Drawings

3. The drawings are objected to because the figures are improperly cross-hatched. All of the parts shown in section, and only those parts, must be cross hatched. The cross hatching patterns should be selected from those shown on page 600-114/115 of the MPEP based on the material of the part. See also 37 CFR 1.84(h)(3) and MPEP § 608.02.

The cross hatching pattern shown in top view, figure 6, may be shown with shading.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 2 and 3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 2 and 3, "the active region further includes a plurality of circuit blocks" is confusing.

It is not clear what is claimed by circuit blocks.

Prior art figure 1 discloses central region 104 reserved for housing **circuits**, specification paragraph 007, page 2.

Figure 5, discloses circuit region 504 divided into several sub-circuit blocks 504a, 504b and 504c, which may be linked together by forming circuit lines, specification paragraph 0025, page 6.

Figure 3 and 4, discloses circuit regions formed underneath bump space between neighboring bumps, specification paragraph 0022, page 5. Circuit regions are shown without identifying any specific boundary of the regions.

From the above description, the examiner concludes the circuit blocks are merely an identification of the circuit regions.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

7. Claims 1, 4 and 14 rejected under 35 U.S.C. 102(a) as being anticipated by applicant's admitted prior art figure 1, hereafter AAP.

Regarding claim 1, AAP discloses a bump layout on a driver integrated chip (IC) having an active region, wherein the bumps are positioned in an array format over the

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active region (conventional bump layout of a conventional LCD driver IC, the bumps 102 are in array format).

Regarding claim 4, AAP further discloses the bumps positioned in vertically aligned rows (bump 102 are in vertically aligned rows).

Regarding claim 14, AAP further discloses the bumps positioned in vertically aligned rows on the part of the active region (bump 102 are in vertically aligned rows).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2 and 3, as best understood by the examiner in light of the second paragraph 112 rejection, are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art figure 1, AAP, as applied to claims 1, 4 and 14 above, and further in view of Dandia et al., US Patent 6,246,121, hereafter, Dandia.

Regarding claim 2, the applicant is claiming the active region further include a plurality of circuit blocks.

AAP does not explicitly disclose plurality of circuit blocks.

However, AAP, discloses a region with circuits (specification paragraph 007, page 2).

Dandia discloses a bond pad layout arrangement for a flip chip package with active surface divided into various distinct regions for different functions with various active elements including input/output circuitry, logic circuitry, etc., see partial figure 1A, column 2, line 57-67 and column 3, line 1-15.

A person of ordinary skill in the art at the time of applicant's inventions would construe that the active surface of the integrated chip device includes various regions of circuitry for different functions of the device.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construe that the active region of admitted prior art figure 1 includes plurality of regions of circuitry, as shown by Dandia, in order to have various different functions of the drive circuits.

Further, it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975) and *In re Japikse*, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950).

Regarding claim 3, AAP further discloses the circuit blocks are laid down in the bump space between neighboring bumps (circuit regions inside the bump array).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Banouvong et al., discloses a bond pad layout arrangement for a flip chip package with active surface 11 having four peripheral region and one central region, see figure 3.

Hikita et al., discloses chip with various different layouts of the functional and dummy bumps, see figure 3, 4, 5 and 6.

Liang discloses a flip chip bump distribution on die with various regions such as edge regions 203, 205, 207, 209 and corner regions 204, 206, 208 and 210, see figure 2, 4A-4D and 7.

Takenaka et al., discloses a driver circuit with bumps.

Pasch discloses solder bump in grid array on the chip.

Akram discloses a chip with bond pad array, see figure 5 and 6.

Chan et al., discloses a hexagonal arrangement of bump pads in flip chip integrated circuits.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ishwar (I. B.) Patel whose telephone number is (571) 272 1933. The examiner can normally be reached on M-F (8:30 - 5:00).


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (571) 272 1957. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0658.


I B Patel 12/14/03
Patent Examiner
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